Physical Science Name

Density of Liquids

Question: Which will be most dense, oil, saltwater, or freshwater? (How does oil initially behave in an oil spill and why?

Variables

*Manipulated(Independent):*_____

*Responding (Dependent):*_____

*Controlled:*_____

Hypothesis: If _____then, _____ because, _____.

Materials:graduated cylinder, balance, water, oil, saltwater, freshwater

Procedure:

1. Find the mass of the beaker. Record mass with correct units on data table.
2. Measure 50 mL of water into the graduated cylinder then pour water into the beaker.
3. Find the mass of the beaker filled with 50 mL of saltwater.
4. Subtract mass of beaker with liquid minus empty beaker. Record in final mass of liquid column.
5. Use a calculator to find the density of the water.
6. Record the density in the data table with correct units.
7. Repeat the procedure with saltwater.
8. Repeat the procedure with oil.

Data Table:

Liquid	Volume of liquid	Mass of empty beaker	Mass of beaker w/ liquid	Final Mass of liquid	Density	Density Rounded to the nearest tenth
Water						
Salt Water						
Oil						

Data Analysis: Create a bar graph to compare the densities of each liquid.

When you are done with your graph. Pour the oil into the saltwater beaker then pour the freshwater into the beaker with the saltwater and oil. Sketch each liquid as it appears in the beaker. Label each liquid.

Write your observations:

_____
_____
_____
_____
_____

Analysis and Results Questions: ALL ANSWERS MUST BE WRITTEN IN COMPLETE SENTENCES!

1. Which type of water is denser? Why do you think so?

2. How do the densities of the two types of water compare to the density of oil?

3. How does this data explain what happens to oil during an oil spill?

4. Do you think an oil spill might affect freshwater differently than saltwater? (Ex:the gulf coast vs. one of the great lakes.) (2-sentence minimum.)

5. Give two additional questions that this lab makes you have about the BP oil spill.

Writing your analysis

Lab Question: Which will be most dense, oil, saltwater, or freshwater?

Paragraph #1

R & A **Restate & Answer the lab question**	
C **Review your data table & graph, compare & contrast the different densities**	
E **Explain what your data suggests.**	

Find an article or reference or website about this topic covered in your lab. Does your data you collected agree with what the article or reference or website states?

Paragraph #2

R & A **Restate & answer the question**	
C **Give an example from the article, or website. Remember to use phrases to cite your source.**	
E **Explain what this information suggests.**	